# THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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### THE REGISTRATION OF FARRIERS.

Our correspondence column has brought out a good many letters on the subject of horse-shoeing and its relation to the profession but the discussion has elicited nothing new on the Registration Scheme.

The supporters of the scheme have remained silent since the annual meeting, and probably we must now wait for the special meeting on August 4th to hear both sides of the question. No one has yet said that the original scheme is bad, so that we may take it as agreed that the combination of the Farriers Company, the Royal Agricultural Society, and the Royal College of Veterinary Surgeons, with the object of improving the art and certifying the skill of those who are proficient, is right in the main. The scheme was started by the Farriers Company, who in this followed the example of other city companies in attempting to assist and regulate the trades with which they were nominally connected.

If our Council had declined to-operate the scheme would not have been abandoned; we should simply have been left outside and with no controlling voice whatever. As it is, we have a very powerful influence over what is done, and the delegates from our Council are responsible for their action. The profession rule the Council, and if the special meeting be at all representative its views will have weight at the Council and at the meetings of the Registration Committee. We only hope that the special meeting will rise superior to the narrow views adopted by some of our correspondents, and that arguments other than mere anticipation of evil will be advanced. It is really too childish for a chartered profession protected by an Act of Parliament to scream with fear lest a stray farrier or two should treat a quittor and tell lies about his Registration. The veterinarian must be very young and verdant who really believes that the public does not know one trade from another, and he must be very cynical and selfish if he thinks a whole trade are at once going to misuse a certificate given them for a definite purpose—a purpose stated on the face of the certificate.

### THE NATIONAL VETERINARY ASSOCIATION.

The eleventh annual meeting commenced at Manchester on Wednesday morning and terminated on Thursday afternoon. The meeting was held in the Town Hall—a noble building which does equal honour to the munificence and artistic tastes of Manchester. The Lord Mayor formally received the Association and in a very happy and kindly speech did justice to the progress made by the veterinary profession in recent years, and acknowledged the Association as a body devoting itself to science and the public good. At noon a further mark of honour was given by an invitation to all the members to lunch with the Lord Mayor in one of the magnificent rooms of the municipal building. In the evening the Association dined at the Grand Hotel and were honoured by the presence of a number of notable guests and visitors. Mr. Faulkner, the President, occupied the chair, and under his guidance not a single hitch occurred throughout the two days. Everyone was pleased. Whether at the scientific discussions, the business meeting, or at the social functions which enlivened the annual assembly, harmony and good feeling prevailed, and the universal verdict was that a more successful meeting has never been held. To the President and officers, for the laborious preparations which must have been made to ensure such a success, the thanks of the Association were heartily given and we may add that the thanks of the profession are due. It is a distinct advance, beneficially affecting the whole profession, when a public reception such as this is given to our representative Association, and when our proceedings attract, as in this case, the favourable notice of the press. We cannot hope that the future meetings of of 'The National' may attain the same high excellence as this one, which must remain for some time a standard to be approached as near as possible. We hope, however, that veterinarians who have not yet joined the Association will now do so in large numbers, and that all will contribute in what way they best can to the future usefulness and position of this growing Society.

The two papers discussed were above the average in merit and interest. One was by Prof. M'Fadyean on "Meat Inspection," the other by Mr. Wallis Hoare was on "Anæsthetics." Both led to well sustained discussions and to a clearer understanding of the subjects. Prof. M'Fadyean's paper was in his usual concise and lucid style. Mr. Wallis Hoare is a new member, and his contribution to the meeting warrants us in saying that the Association has secured a member who is a decided acquisition and who has made a mark.

Two reports formed part of the proceedings—one by Prof. Williams on "Azoturia" which sums up the collective experience of a committee appointed to investigate; and one by Mr. Harry Olver, who performed a similar duty in reference to the reports of a committee appointed to try and elucidate the mysteries of "Milk Fever."

On the afternoon of the last day, Capt. F. Smith performed an operation on a horse suffering from Roaring. This operation is a novel one, and attempts to benefit the animal by uniting the left recurrent nerve to the spinal accessory. Those members who were fortunate enough to obtain a position enabling them to see the operation speak in praise of the skill of the operator, and the rest are hopefully awaiting a report on its effects, but of course some weeks must elapse before this can appear.

## CASES AND ARTICLES.

### RECURRENT MANGE.

By Vet.-Captain F. Smith, Aldershot.

There are some people who regard the treatment of mange in the horse as a very simple matter, and I have heard it said that no case should be more than ten days under treatment. With this dictum I venture to disagree, and at the same time to draw attention to a practical point which, though doubtless well known to many whose acquaintance with skin disease is extensive, is not, I think, as generally recognised as it should be, I refer to the recurrent nature of mange.

It is these recurrent cases which prove so obstinate in treatment, and from the fact that the acarus cannot always be detected they offer a low degree of contagiousness, and are most liable to throw the unwary off their guard. Two such cases I have had under treatment for three years, and if they teach others the lessons they have taught me a brief record of their history may prove of value.

"A" and "B" were two horses belonging to a military unit; this unit some years ago had certain cases of skin disease which were regarded by the veterinary officer then in charge as non-parasitic; this opinion was based on careful observation in spite of the suspicious clinical history.

The affected unit came to Aldershot for temporary duty, and not a case of skin disease was present, excepting in "B," which had a slight eruption over the loins thought to be due to the harness; microscopical enquiry of this eruption discovered no parasite, so the case was treated as eczema. After a short time the unit left Aldershot and "A" was left behind, having met with a severe accident which prevented him from marching. When he recovered he was posted to a new unit, and after being there a few weeks the trouble began. On 4th November, 1889, a large moist patch of eruption was found on the withers, it was intensely itchy, psoroptic acari were found in abundance, and the case was isolated and treated with M'Dougall's sheep dip. This horse infected several others, which readily yielded to treatment, and he himself was discharged cured on 29th December, 1889, or after 55 days treatment and isolation. On March, 1890, "A" came sick again with an identical patch on his withers, loaded with psoroptic acari, and the case readily yielded to sheep dip dressings and was sent out cured on 31st March. Twenty-one days later he was infected for the third time, and scrapings from his skin yielded abundant evidence of his trouble. This attack also soon gave way to treatment, but as the horse had been infected on three distinct occasions in five months, the recurrent nature of the disease was forced on my notice, and it was determined to give six months absolute isolation; this was completed on the 4th October following.

While "A" was giving all this trouble "B" reappeared on the scene, the unit to which she belonged having come to Aldershot for permanent duty. "B" in 1890 had an exematous patch on the back, little or no hair left in the tail, and the whole skin in an unthrifty condition, showing signs of itchiness even where there was no appearance of eruption. It was said she had been in this condition on and off for some two or three years, and as she lived in the stable with other horses whose skins were quite healthy it was not considered to be parasitic. "A" however had taught me some lessons, and as he originally worked with "B" I isolated "B" on suspicion, and as repeated examination of the skin failed to reveal any evidence of a parasite, I treated her for eczema. Here are the entries of "B" for one year.

25th Jan., 1890, to 15th Feb., 1890.
23rd May, 1890, to 31st May, 1890.
3rd June, 1890, to 25th July, 1890.
16th Augt., 1890, to 9th Sept., 1890.
4th Dec., 1890, to 11th Dec., 1890.

Each of these entries was for eczema. The most careful search by more than one person failed to reveal anything parasitic; this is important to remember, for though it is pardonable to overlook the presence of a few bacilli in a pathogenic fluid, no one is likely to overlook a crawling insect magnified the size of one's thumb. In spite of not finding the acarus the case was kept rigidly isolated as the eruption was suspicious, and was on several occasions shown to classes as the typical eruption of scabies without the parasite, and therefore only eczema.

We have followed "A" and "B" up to the end of 1890 when both cases went to duty, but remained isolated owing to the previous lessons furnished by "A." All 1891 the horses gave no trouble, "B" was frequently itchy in the old places along the spine but was kept at regular duty and dressed, "A" gave no trouble whatever. Early in 1892 both cases were re-admitted to treatment, "B" for an eruption on the back and neck, "A" for a slight eruption on the withers. Neither case gave the slightest evidence of parasites after repeated and careful enquiry. The cases were admitted on 27th February, 1892, and "A" was cured and "B" relieved on 31st March, 1892, for what was regarded as eczema. On 27th June, 1892, "B" was re-admitted worse than she had ever been before, back, neck, and croup affected, considerable itchiness, no parasite detected; on 13th July, 1892, "A" was re-admitted for the old complaint on the withers, and rubbing the tail; both cases remained under treatment for the remainder of 1892. Owing to the absence of the parasite, and from the manner in which they failed to re-act to treatment, I regarded them as chronic eczema. By the end of the year I looked upon them as incurable; "A" steadily got worse until the greater part of the body was affected; a slight rub of any kind started a fresh patch which spread with extreme rapidity; the patch would dry up, and a hard scaly surface remained—the irritation was intense, and no remedy gave any relief. "B" was better than this, her trouble was nearly always located on the withers, but she only recovered to break out again. The whole time the cases were under treatment, anti-parasitic dressing had been employed, clipping, etc., but to no effect.

I considered both cases incurable forms of eczema; on the 17th January, 1893, psoroptic acari were found on both animals, making the fourth invasion of horse A, but the first time out of eight attacks that they had been discovered on horse B.

These parasites therefore, had resisted every dressing. During the years both cases had been under treatment I believe that every known remedy internal and external was tried; over treatment as well as under treatment was avoided, but I can conscientiously say that case "B" never made any approach to recovery until I adopted the following procedure. I shaved the whole body (excepting the legs) with a razor, the operation took four days, and as "A" had a patch on the withers this was also shaved. The dressing used was sulphur, oil of tar and lard—*not oil*—the latter is most irritating to skins, and worse than useless in such chronic cases as I have described. The shaving was repeated after the fourth day and the dressings continued. So excellent was the result of this shaving that when I saw my cases next, after being away a fortnight, they were practically cured, the coat was growing as it had never been before, and the skin felt and looked healthy. The effect was astonishing!

I have ventured to recapitulate the admissions of the two horses, as these troublesome cases have been full of valuable lessons. The result of the shaving would certainly go to prove that both animals probably had scabies the whole time, whilst, certainly in 1892, I was regarding the cases as eczema and incurable.

A.

| | | | | | |
|---|---|---|---|---|---|
| Scabies | 4th Nov. | 1889. | Cured | 29th Dec. | 1889 |
| Scabies | 4th March | 1890. | ,, | 31st March | 1890 |
| Scabies | 21st April, | 1890, | ,, | 4th Oct. | 1890 |
| Eczema | 27th Feb., | 1892, | ,, | 31st March | 1892 |
| Eczema | 13th July, | 1892, | Relieved | 17th Jan., | 1893 |
| Scabies | 17th Jan., | 1893, | Cured | 12th June, | 1893 |

B.

| | | | | | |
|---|---|---|---|---|---|
| Eczema | 25th Jan., | 1890, | Cured | 15th Feb., | 1890 |
| Eczema | 23rd May, | 1890, | ,, | 31st May, | 1890 |
| Eczema | 3rd June, | 1890, | ,, | 25th July, | 1890 |
| Eczema | 16th Aug., | 1890, | ,, | 9th Sept., | 1890 |
| Eczema | 4th Nov., | 1890, | ,, | 11th Dec., | 1890 |
| Eczema | 27th Feb., | 1892, | Relieved | 31st March, | 1892 |
| Eczema | 27th June | 1892, | ,, | 17th Jan., | 1893 |
| Scabies | 17th Jan., | 1893, | Cured | 12th June, | 1893 |

It was Prof. Spooner who once said that if all the skin diseases of the horse were put in a bag and shaken up they would turn out to be mange; case "B" supports this aphorism, and so far as it applies to this country it may be largely, though certainly not entirely true. In India horses are affected with a chronic periodical eczema presenting all the appearances of mange but without the parasite; after months of irritation it dies away spontaneously to break out again next year; such cases are, I think, generally regarded as incurable, they are certainly not parasitic, and absolutely not contagious.

The periodic nature of the cases related, is to my mind the most remarkable feature—it is difficult to understand how the eggs can live on the body for weeks and months and then hatch out in spite of repeated anti-parasitic dressings, and yet there is probably no other explanation of the fact so long as we refuse to believe in spontaneous generation. It is a matter of no uncommon observation that the same horses are periodically attacked with mange. I should like to know how the eggs escape destruction with the parasite, how they can escape the repeated dressings which are used to make assurance doubly sure, and weeks later burst into fresh activity and re-infect the patient? I cannot attempt to explain it, but it is an undoubted fact.

Taking now the other view of the case, I may say that it is not every horse which presents acari in scrapings from his skin which is infected with mange—*the dust and debris from the skins of perfectly healthy horses kept in stables with wooden roofs will yield acari* which to the ordinary observer would be regarded as disease-producing parasites. Observations on this important subject will shortly be published from the pen of another.

Finally, if there is any other individual who, like myself, has for three years vainly been endeavouring to combat a case like that of horse "B," I beg to recommend to his notice the razor, without it I would have been no nearer curing that horse; for the skilful manner in which it was employed I have to thank my subordinate, Farrier-Major Miles, A.S.C.

*Moral.* Regard all chronic skin cases as suspicious of mange even if the parasite be undetected, and protect yourself, as in the cases related, by a rigid isolation of the affected animals.

## ARMY VETERINARY DEPARTMENT

### FOUNDATION OF THE ARMY VETERINARY DEPARTMENT.

EXTRACT FROM THE PARLIAMENTARY REPORT OF THE COMMISSIONERS OF MILITARY ENQUIRY—7TH REPORT, DATED 20TH JANUARY, 1809.

VETERINARY DEPARTMENT.

The contingent account of Mr. Coleman, Principal Veterinary Surgeon to the Army, is another of the miscellaneous accounts which are examined in the War Office. An investigation into the mode in which this account is checked naturally led us to make some enquiries into the veterinary establishment itself, so far as it is connected with military expenditure, and with the providing of veterinary surgeons to the corps of cavalry. On this subject, we refer to the regulations of the War Office dated 24th May, 1796; 21st September, 1796; and the 26th May, 1803, as given in the book of printed regulations from p. 412 to 417, and to another regulation dated 27th May, 1807; together with the examination of Brigadier General Bolton and of Mr. Coleman which will be found in the appendix to the present report.

The plan of providing the corps of cavalry with veterinary surgeons was suggested, it appears, by a Board of General Officers who had been assembled to

take into consideration, among other matters, the means of improving the practice of farriery in those corps; and accordingly, by the regulation dated 24th May, 1796, it was ordered that a person who had been properly educated at, and who had received a certificate from the Medical Committee of the Veterinary College (an institution which had been some time established) should be attached to each regiment of cavalry. The appointment was to be by a warrant from the Colonel, and the pay during this person's continuance in the service was to be exactly the same as that of a Quarter-Master of Cavalry, viz., five shillings and sixpence per diem. The regulation further directed the mode of providing the requisite number of veterinary surgeons, viz., by each regiment not so supplied being permitted to send a student to the College in order to his being instructed in the veterinary science, and to charge for his maintenance and education at the College half of the above pay in the contingent half-yearly account.

In the regulation of the 21st September, 1796, it is stated that upon attempting to carry the above regulation into effect it had appeared that much difficulty and delay would unavoidably occur in finding proper persons according to the engagements prescribed in the plan, and therefore under the expectation that by appropriating the sum which had been intended for the education of the pupils during three years to an increase of the daily pay of the surgeons, and by putting the institution itself on a more respectable footing, a sufficient number of persons already well educated in surgery and who, if not then conversant in the veterinary art, might be able in a very moderate space of time to qualify themselves for the practice of it, it was ordered that the veterinary surgeon should be appointed by a commission from His Majesty and should have the pay of seven shillings per diem, with a further allowance of one shilling per diem for the maintenance of a horse and the benefit of the extra feed, in the same manner as the other commissioned officers of the regiment.

In this regulation it is announced that Mr. Coleman, the Professor of the Veterinary College, had been appointed principal veterinary surgeon to the cavalry, with an allowance of ten shillings per diem, and that he would supply instruments and medicines (free of cost) to the regimental veterinary surgeons, and that he was to be allowed three shilling a year for each horse for providing the same; this allowance, it appears, was to be paid monthly to him by the regimental agent according to a return of the number of horses, signed by the Commanding Officer and veterinary surgeon, and the amount of the charge for the horses of non-commissioned officers and private men was to be deducted from the fund for farriery. To insure the good quality of the medicines furnished by Mr. Coleman, it is stated in this regulation that it had been stipulated with him that they should be constantly purchased from Apothecaries Hall; and to guard against the improper expenditure of them it was expressly ordered that the veterinary surgeons should be refrained from private practice of any kind, and the Colonels and Commanding Officers were informed that His Majesty expected that they would be particularly careful in preventing the smallest diviation from the order.

We asked Mr. Coleman what qualifications were required in the persons who he recommended to be appointed veterinary surgeons to the cavalry corps, and in what manner they were ascertained. They must have attended, he said, his lectures and practice at the College three months at least (whatever may be their previous qualifications) before they can claim an examination, and they must also have attended lectures on human anatomy, physiology, and surgery, materia medica, chemistry, and the practice of physic, either before or since they have been at College, but it is not necessary that they should have seen diseases of the human body. These last lectures the pupils, from the great liberality of the principal public teachers in town, have an opportunity of attending, we learn, without any expense. The pupils who have taken these necessary steps for acquiring knowledge, then undergo a rigid examination in the different branches of their profession before the Medical Committee of the College, which is constituted of those principal public teachers whose lectures they must have previously attended, and if they are found to be qualified they receive a certificate from the Medical Committee and from Mr. Coleman the professor, which renders them competent to be recommended to the Commander-in-Chief for commissions. Mr. Coleman says that this course has always been observed except in one instance in Ireland, in which, however, on a representation to the Commander-in-Chief when the regiment came to England he was pleased to put the person on the half-pay establishment. But although this statement of the attention which is used in procuring persons properly qualified for the situation of veterinary surgeon to the cavalry corps certainly calls for a favourable opinion of the system, yet it was necessary to inquire whether its utility had, in practice, been found to be such as would justify an additional expense to the establishment of each regiment of cavalry of at least two hundred pounds per annum. On this head we examined Brigadier-General Robert Bolton who had served in the cavalry about 25 years, and who is much employed in the inspection of the horses provided for the Army. It is his opinion that the veterinary surgeons belonging to the Army who have fallen under his observation have been properly qualified for their situations, and he thinks that their appointment to the corps of cavalry has been productive of much benefit to the service, which has arisen from the superior information of the surgeons over that of the farriers who had before the medical charge of the horses, and from the great improvement which has been made in the shoeing since the introduction of the system.

Having stated this opinion in approbation of the system it is proper that we should state also that in 1806 the Secretary at War having referred to the consideration of the Army Medical Board a proposition of Mr. Coleman for increasing the advantages of the veterinary surgeons it appears by their answer, given in the appendix to our 5th report, that the Board question whether any real benefit had arisen from what they call the late approximation of the

veterinary surgeons to the Medical Department; and they state that on a question being put on this point to Mr. Coleman by the Surgeon-General the answer had been in no degree conclusive or satisfactory, and that Mr. Coleman had admitted "of those veterinary surgeons appointed within five years preceding, none had any sort of medical education." And the Board further observe that it is much to be questioned if most of those who are now designated veterinary surgeons at eight shillings and sixpence per diem, are not of the same description of character; and they add that "if the proposed increase of advantages should seduce medical students to the veterinary department, it would not fail to injure the more leading considerations of the public." This statement of Mr. Coleman's admission to the Surgeon-General relative to "the veterinary surgeons having had no sort of medical education" may be reconciled, probably with the evidence which Mr. Coleman gave before us, by the meaning which he seems to attach to the words "medical education," for Mr. Coleman says that "it never was necessary that the veterinary pupils should have seen disease of the human body," although they must always have attended the lectures described by him, and must undergo a rigid examination on the subject of them. We could not procure a copy of Mr. Coleman's correspondence with the Surgeon-General, in which the above admission is said to be contained, for we were informed by Mr. Reed, the Secretary of the Army Medical Board, that on reference to the Surgeon-General, no such correspondence, after the most diligent search, could be found. We must notice likewise that Mr. Knight, the Inspector-General of Army Hospitals, in a letter to the Deputy Secretary at War, dated 27th May, 1807, which is also published in the appendix to our 5th report, seems to think that more encouragement is given to the veterinary than to the medical department of the Army, for that in the War Office letter of 21st September, 1796, before alluded to by us, the attention of the student is not only drawn from the Medical Department of the Army, but he is expressly invited to quit the surgical for the veterinary pursuit. In proof of this opinion Mr. Knight has given a comparative statement of the pay and advantages of the Medical and Veterinary Department of the Army.

Whatever weight may be due to be representations of the Army Medical Board and of Mr. Knight, we have no evidence before us of any actual injury which has been sustained by the Medical Department of the Army from the superior encouragement which is supposed to be given to the veterinary surgeons, and we should apprehend that the injury cannot be to any great extent, for the British Veterinary Surgeons, who are recommended from the College, amount to 32 only.

(*To be continued.*)

### Regimental Dairies in India.

The military authorities have given every possible encouragement to the establishment of regimental dairies in all large military stations, and they are prepared to be generous in the matter of grants in this connection. The question of the appointment of an Inspector of Dairy Farms has been under consideration, but no definite conclusion has yet been arrived at. It is clearly established that milk is the great vehicle of enteric poison, and the greatest care should be exercised in the direction of securing a pure supply, without resort being had to the bazaar. If regimental dairies were established in every station, from which messes might be supplied, there would be far fewer cases of enteric fever among the officers.

*The Army & Navy Gazette.*

## VETERINARY SOCIETIES.

### EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

The 31st half-yearly meeting of this Society was held at the Royal Assembly Rooms, South Beach, Great Yarmouth, on July 11th. The President, F. Low, Esq., Norwich, in the chair. There were present T. E. Auger, Wm. Bower, F. Case, J. R. Gooch, G. C. Hunting, W. R. Mills, J. D. Overed, Wm. Shipley, Senr., Sid. Smith, A. E. Shorten, P. Turner, Jas. Thurston, R. C. Taylor, C. W. Crofts, J. Pollock, A. L. Butters, and the Secretary.

Previous to the meeting the members sat down to a cold luncheon, the President in the Chair.

The President read letters from Sir H. Simpson, Messrs. A. H. Santy, E. Faulkner, Dr. Fleming, Profs. Williams, M'Fadyean, Walley, and Pritchard, regretting their inability to be present.

The President in welcoming the members very much regretted that so few members turned up, but trusted those members present would carry on an instructive discussion.

The minutes of the last meeting were taken as read.

On the motion of Mr. Overed, Mr. J. Pollock, F.R.C.V.S., was elected a member of the Society.

Letters were read from the National Veterinary Association *re* British Institute, and from Mr. E. Faulkner.

It was decided to give an anuual subscription of £2 2s. to the Agricultural Benevolent Institution.

On the motion of Mr. Taylor, seconded by Mr. Shorten, the next meeting in February will be held at Colchester, the farthest limit of the Society.

### EQUINE DENTAL SURGERY.

By W. Shipley, Junr., M.R.C.V.S.

Mr. President, Gentlemen,

Being so young a member of our profession and of your excellent society I have a certain amount of hesitation in reading a paper to you, especially on a matter so important and so broad as the practice of dental surgery. My interest in the society made me feel that it would be a subject to promote a good discussion, and be at the same time a stimulus to us one and all to investigate a branch of surgery which is to a great extent neglected, probably on account of want of knowledge and experience, and insufficient attention having been paid to the matter in the past. I for one think it is no satisfactory state of affairs to see men like M. Loeffler coming from abroad to operate on our patients. We should see the opportunity for ourselves, not neglect it.

This branch of equine surgery of which I shall now attempt to point out the principal points is one of great importance to us in the Eastern Counties, especially

those with a practice in large breeding districts for cart horses. It naturally is less frequently met with in town practices, because any irregularity in dentition which causes so much tronble in young horses is usually overcome before the animals are fit to go to town work. It is important from the fact that otherwise valuable young horses may be rendered valueless when from any cause pertaining to faulty dentition mastication is hindered, and therefore digestion materially interfered with, bringing down healthy young horses to a low condition, rendering them unfit for sale, or even to go to such work on a farm as the owner may require of them.

I can only touch lightly on those systemic diseases consequent upon dentition, and take up more closely those requiring surgical interference. The operations we are called upon to perform are none of them very difficult to the surgeon or dangerous to the animal. Some require a little care and judgement, others are most simple, as for example the comparison between extracting a wolf's tooth and the more serious and complicated operation of extracting a molar.

It is a well known fact that most individuals connected with horses, especially the "coper," have instruments for performing the most simple of the operations. We find they have a balling iron, chisel, and rasp, some a pair of forceps for carrying on their deceptive practices. We may be called upon to extract the corner incisors of four-year-old or even younger horses, an operation often performed by a dealer under a belief that it hastens the appearance of the permanent teeth. This is a question for our consideration inasmuch as it affects us in the show ring and sale yard. However, does it hasten their appearance? I believe it does not, and I would like your opinion on the subject. I have seen serious consequences; in one case the permanent teeth never put in an appearance at all after the operation. The burning of the gum over the seat of the teeth is also performed in order to hasten the appearance of that tooth. But I have no doubt all the gentlemen present would decline to assist in these frauds. I ought, perhaps, to mention the old fashioned disease lampas, a congested state of the mucous lining of the mouth. I am thankful the old operations of lancing and burning is rapidly dying out.

Before considering the irregularities and diseases of the teeth let us first look at what constitutes normal dentition. The facts we ought to regard are first, at what periods the horse acquires his teeth? and second, what state should his mouth be in in full dentition? In considering the first question let me not trouble you with the full dates of dentition in the horse, it is sufficient to remember that all the horse's teeth are first temporary and then permanent, with the exception of the tushes and the 4th 5th and 6th molars. With regard to the molars this last fact coupled with the date of cutting may assist us in finding out the cause of one special disease to which I shall have more fully to call your attention later on, namely the inability of these teeth to fill up their alloted spaces in the jaws, so that the teeth are not in actual contact.

In considering the state of the horse's mouth in full dentition. Let us remember that the tables of the incisors and molars should come in direct apposition with those of their fellows in the opposite jaw, and that the lower jaw is slightly narrower than the upper. Irregularities in this condition produce, for instance, parrot-mouthed horses; not only do the upper incisors project over the lower but the first superior and sixth inferior molars from the want of general attrition grow long and project above the level of the tables of the other teeth, hindering mastication and often injuring the lips, tongue, and jaw. As far as the incisors are concerned they are apparently only of consequence in the case of an animal turned out to grass. There are other conditions of the jaw which you will remember. The opposite condition to parrot-mouth, the appearance of the demolar, commonly called wolf's tooth, or abnormal position of tush.

Irregularities of the incisors are of no great consequence to the horse, but it is in the molars that he has by far the greatest inconvenience. I have noticed horses with an extra incisor. Supernumerary teeth, however, are found more often in the molars than the incisors. I remember one specimen of seven perfect molars in each row, without apparent inconvenience being caused. As far as the demolar or wolf's tooth is concerned, differences of opinion occur amongst veterinary surgeons. We are often called upon to extract the wolf's tooth on account of the popular belief that their presence in the jaw affect the eye, and even mastication. I am of opinion however that they are of very little consequence, except that some of them lacerate the tongue or cheeks from peculiarly of position, and so hinder mastication. They have no function to perform, and I would extract them with the same idea as removing dew claws in a pup, viz. that they may at some time cause inconvience. I would like an opinion on this point.

*Instruments.*—In naming the instruments we require one must of necessity be provided with a good screw balling iron, or gag, rasp, chisel, mallet, and large and small forceps. For shortening or taking off rough points in the incisors and tushes, I use the common shoeing smith's rasps, and find them by far the handiest instrument. You may all have your own ideas on rasps, chisels etc, but I would especially call your attention to a pair of forceps originated by a pioneer of dental surgery, a well known member of our society—Mr. Santy. These are pronounced to be by far the best and most certain instruments in use. Their special recommendations being the ease with which they can be got on to a tooth, that from the shape of the jaws they get hold of the whole length of the sides of the tooth—a hold which is not likely to slip; and also the ability to get them well down on to the neck of the tooth close to the gum, lessening your chance of breaking off the head of the tooth and not being able to draw the fangs. The lever with these forceps is also of great use in the hands of an able assistant.

The removal of elongations of the teeth may be effected by chipping with a plain chisel, Gowing sliding chisel, or far better, Thompson's tooth shears. This instrument is rather heavy and strong but is most certain in its action. I have at times clipped the largest of teeth with it with the greatest ease without casting the animal.

*Symptoms.*—What are the symptoms presented to us which aid the diagnosis of dental trouble? That the animal quids is one of the first signs which attracts the attendant's notice. We can easily call to mind the filthy state of the manger of a horse that quids. A horse shrinks in condition, looks hollow about the eyes, haggard in appearance, skin tight, salivation, diarrhœa, colic, indigestion, and in some cases repeated choking; and one may notice irritability of the digestive tract, and the presence of long pieces of partially masticated hay in the fœces. With these symptoms one would examine the teeth. In the common quidder all that may be felt —and is sometimes overlooked--is the presence of a hard mass of food between two teeth, which on being pulled from between the teeth will be found to stink horribly. Salivation may be produced from the presence of a foreign body, such as a piece of wood, stuck in the mucous membrane. In diseases of the teeth in the upper jaw after some time one would notice swelling in the superior maxillary bone, abscesses, and at times a chronic fetid discharge from a nostril, with disease of the bony structures in contact. In one case at present under treatment a fistula through which the food works

on to the face. Rough and long teeth will lacerate the tongue and cheeks and jaws, as often noticed in old animals.

*Treatment.*—Having briefly run through the symptoms let us look to the treatment. One never forgets the old maxim, "remove the cause and the effect will cease." Whatever the cause may be it is therefore to be removed; perhaps simply rasp down some sharp points or irregularities, remove the cap of a temporary molar, clip an elongated or extract a diseased molar. In these latter cases it is generally necessary to cast the animal, and if so let us take the usual precautions of keeping without food etc. for a short time previously.

In extracting incisors, an operation easy to perform, casting is not necessary, the principle causes requiring surgical aid being the removal of loose temporary caps, adherent over the permanent teeth and lacerating the lips, easily removed with a pair of small forceps. Sometimes one is compelled to use the chisel to detach the caps over these permanent teeth. In the removal of a permanent incisor from irregularity or disease we are recommended to apply the actual cautery a day or two previously round the gum at the neck of the tooth, as by this means the tooth is caused to leave most of its attachments to the alveolus. We must, however, be very careful in no way to fracture the jaw in this operation—a not at all unlikely result. The same means would be used to displace the temporary caps from the molars as those of the incisors.

Now we have to consider by far the most important branch of this surgery, the extraction of molars; and the troublesome matter of quidders requires our most careful attention. The condition I have previously mentioned, namely the want of actual contact and attrition of the opposing jaws, irregularities of the edges, and want of contact of the borders of neighbouring teeth are our principal troubles. We must not forget the fact that in a sound set of teeth it is absolutely necessary that the anterior border of one and the posterior border of the next tooth must come in actual contact, and we shall find we often come across cases where this condition does not exist, especially as regards the 4th 5th and 6th molars. Failure of this close contact allows the collection of food which by pressure from above gradually works its way down between them deep into the alveolar walls, and if one of these teeth is not removed serious complications may arise. Several months elapse between the cutting of the 4th and 5th and also between the 5th and 6th molars; this is a considerable period, and coupled with the fact that this impacted condition generally appears in both sides of the same jaw, may probably assist us in finding out the cause of the disease. I feel inclined to think that the jaw grows to a great extent during these times, and the teeth not sharing that growth are unable to fill up their allotted spaces.

Now let us think for one moment on the matter of rasping horses teeth. How common the practice is? I would ask for an expression of opinion whether it is not often done to satisfy our clients and our own pockets rather than as a benefit to our patient. Do not think I do not believe it is necessary to rasp teeth sometimes; I am sure it is; but I feel it is often practised without the slightest benefit or chance of benefit. It would be a great wonder to me if teeth did not get sharp points on the border. All horses have them after the teeth are well up, and without any inconvenience, but some are so placed as to lacerate the tongue and cheek and must be rasped off.

Wolf's teeth, again, are commonly drawn. I believe a great percentage of the horses in my practice have had their wolf's teeth extracted by me. They can easily be removed by tapping sharply with a chisel, and if not quite displaced using small forceps to disconnect them from the gums.

Referring now to drawing molar teeth, we must invariably cast our animal. What do we want to accomplish? Either clip or extract an elongated molar, extract a split molar, a molar with decayed centre, or our old friend the separated tooth. We may be able to clip the long molar, but the others must be extracted, or at least the attempt must be made. In our attempt to draw the molar of a horse, the animal being cast with the hobbles, the broad web of a halter should be put round the interdental space of the upper jaw to enable our assistant to support the muzzle, in order to get light into the mouth. The jaw being opened with a screw gag, taking care not to open so wide as to injure the muscles of the maxillary joint, yet at the same time as wide as possible; the exact position of the tooth observed. The forceps should be opened, slid down the row of molars, and placed as near as possible over the diseased tooth. It should then be held and properly adjusted, taking care that it is on only one tooth. One gentleman told me of extracting two teeth at one time, this will explain itself as being rarely necessary, although it might appear so from the separation of two molars. The forceps being fixed, we should now attempt to loosen the tooth by slowly wringing it in its socket, taking care not to jerk, as by this means we may break the crown of the tooth off at the neck, and this, in many cases, leaves us the necessity of trephining and punching out the fangs. Now the tooth being loosened in its alveolus by the rotary and lateral movement, place the lever as near the end of the forceps as possible, so that it may also act as a fulcrum—I generally use the ordinary tooth chisel, as one can more easily get the thin edge well under. Depress the handles of the forceps, get an assistant to raise the end of the lever, and the tooth is partially drawn. I would then endeavour to get another bite on the tooth lower down towards the fangs; and turning the forceps into the animals mouth with a little care, the operation is performed. Sometimes however it may be necessary to take a smaller pair of forceps to actually extract the tooth. In no case leave the hold of the tooth so as to let it drop into the back of the mouth, as you can well imagine serious consequences may result from this accident. Now raise the poll of the horse, so as to allow the blood to escape, and prevent choking from blood running on to the lungs. It is often necessary to draw the fellow tooth on the opposite jaw, if so one would go through the same proceeding. Before mentioning other operations I would like to remind you that in simple cases when you have separation of two adjacent molars and the separation has not advanced below the alveolar walls, and you have the misfortune to break off the head of the tooth, this is all that is necessary for a time, as you will have removed the cause of the inconvenience to the animal. In a split molar of course the whole must be extracted.

The operation of trephining, in order to lay bare the fangs of the teeth; is necessary when you would remove fangs, or when the tooth is so much decayed as to break away under the grip of the forceps. Let us see first what instruments we require, and secondly the position of the teeth over the fangs of which we want to trephine. The instruments likely to be required are of course a complete set of trephining instruments, a good steel punch with a flat table about $\frac{1}{2}$ inch square, and a mallet. With regard to the position of the teeth; in trephining, those in the most difficult position are the last four molars in the upper jaw. These are to be got at by opening the sinuses of the superior maxillary bone, and we must now consider more particularly the anatomical position of these teeth. The fangs of the 5th and 6th molars are found in the floor of the superior maxillary sinus; those of the 4th, and sometimes the 3rd, in the inferior maxillary sinus. To find the position in which to trephine into these sinuses one should take a point about an inch above the anterior end of the zygomatic ridge, and then

we should open into the anterior part of the inferior maxillary sinus, and by taking a point about an inch and half posterior to this we should open into the superior maxillary sinus. It is not always necessary to take such careful measurements as these, for the external ridge of the teeth may be felt through the muscles, except perhaps those of the last two. The ridges raised on the bone by the fangs of the first and second can usually be felt, so putting on one side any difficulty in finding them. The molars of the lower jaw have not such well marked situations, still there should be not much difficulty in finding them, especially by taking into consideration the position of the opposing teeth in the upper jaw.

The bone having been trephined and the fang of the tooth made accessible, the base of the broad punch should be applied and smartly hit once or twice with a mallet, and if this does not remove all the pieces—which of course is necessary, as any part of the tooth or diseased bone being left will prevent healing and the filling of the alveolus—these pieces should be removed with a small chisel or forceps. The tooth having been removed, plug for a short time with an antiseptic. Iodoform tow is very nice for the purpose. Syringe out every day, and gradually allow the wound to heal; and no doubt you will find you have effected a cure. In some cases pieces of diseased bone may have to be removed, or you will find the mucous membrane diseased; this of course will be treated according to your usual practice.

I have seen some remarkably successful results from this operation, and I have in my memory a case of a valuable young horse, 4 or 5 years old, sold for a big sum and returned on account of diseased teeth by a veterinary surgeon. The horse gradually lost all condition, and became almost valueless. After one or two ineffectual attempts to extract by forceps—the tooth being so much diseased as not to stand the grip of the forceps, he was finally cast and trephined, the pieces extracted, and in a short time he returned to his previous healthy condition and was, I believe, sold for 120 guineas. Does this not prove to us really the benefit to be obtained from surgical interference with the teeth and the necessity of thoroughly studying and understanding the operation. I might of course give you a record of many cases where simple extraction has reaped its many rewards alike to the animal, the owner and the operator. Young horses, usually 4 or 5 years of age, after wasting away, losing all their usual freshness and activity, and becoming almost useless to anyone, having been operated on renew the condition and life of a healthy horse. I have often thought the knowledge of equine dentistry amongst the members of our profession rather limited. Many hardly ever think of drawing a tooth. One of my lecturers at college I remember once said that only men of herculean strength would attempt to extract the molar tooth of a horse. Well that may be the opinion of some but it is not really the case; we are not all strong men but we can all draw a tooth if we try.

What is the cause of this want of knowledge of dentistry in the profession. I think want of an exponent of the operations first, and want of really suitable instruments in the second place. We have rather a limited supply of good forceps and should we select a pair of inferior pattern the result is obvious. I have one pair of forceps made after the pattern suggested and used by Mr. Santy, and they are without doubt the best. I have seen a veterinary surgeon attempt to extract the molars with other forceps and fail, and then use what I call Santy's forceps and succeed.

In the after treatment of our patients great care should be taken. The tooth having been extracted the cause of the pain is gone, and the animal will then eat almost anything it can get hold of, therefore we should be careful to warn the attendant how he should be fed. Give him warm nutritious diet with plenty of bran mashes, always giving it him in small quantities, and do not let him have all he will eat. He will go ravenously at his food. I have known of a ruptured stomach shortly after the operation when the attendant allowed too much bran mash etc. A rest and little exercise for a week or two, and I prefer when possible a month or so at grass, and in a short time he is quite fit for general work. After the operation it may be necessary to clean out the empty alveolus or even remove loose bone, but in a short time it completely fills up, and it is only two or three years afterwards that one has again to interfere with the teeth, and then it will be found that the opposing molar may, from want of attrition with the extracted one, have grown down long and will then be a hindrance to mastication, especially in eating long hay when the animal appears to be unable to pass it along the teeth. All that is necessary is to clip off this elongated piece of tooth with a chisel, or far better to clip it off with Thompson's tooth shears. One rarely requires to cast the horse for this operation, and often the piece can be broken off by manual pressure on the shears without the assistance of the screw.

On such matters as plugging the alveolar spaces etc. I unfortunately have no experience. Possibly some gentlemen present may have tried it. No doubt gentlemen what I have been reading is A B C to many of you and possibly wearying to you, therefore one other matter and I must bring my paper to a close, the matter of soundness as connected with diseased teeth.

That a quidder, or in fact any horse with diseased teeth, is unsound is a recognised fact. In Norfolk I may say especially quidders. When I say quidders I mean horses which from having separation between the molars, commonly between the 5th and 6th, sometimes the 4th and 5th or other molars, when in the act of mastication are compelled to eject their food from the mouth in a half chewed state as the result of the pain. From what I can understand this disease is far more common than formerly, perhaps because quidders were known but the cause unknown. That I must leave open. We know the cause now, and it is a great worry to us. Is it hereditary? I am of the opinion that it is. If so, should it not be necessary to make an actual examination of the teeth of cart horses in show grounds and such like places where we, as a body of professional men, are asked to point animals without hereditary tendency to disease. I have spoken of several derangements this afternoon but this disease above all deserves one paper and one discussion.

I thank you heartily for the kind hearing you have given me; it is an attempt on my part to prove that such papers will do more good to promote discussion from the fact that you will hesitate less to discuss it before me than before a more learned gentleman. That it is a subject on which there is a diversity of opinion and great want of knowledge and experience must strike us all. I hope you will one and all endeavour to contribute to the remarks which must follow, and go away having taught something and having learnt something.

### Discussion.

The President, in thanking Mr. Shipley for his instructive paper, noted how serious the case was with valuable cart horses. He believed that the common disease of quidding was hereditary, and one should take great care in the examination of cart horses. He was sorry to see men like M. Lœffler in this country, and called attention to the case of Friar's Balsam. He hoped each member would investigate this branch of surgery, so that in a future period we should hear of further advances in this science.

Mr. Bower thought that in cases where they found masticated or half masticated food between the teeth, the

teeth opposite the aperture were in some way diseased. The best remedy was to remove them, and if it was a case of clipping there was nothing like Thompson's shears. As to the removal of incisors being made a test of age, they ought to examine very much more than they did. They probably had most trouble with the last tooth, an elongated tooth, or the last lower molar. He was seldom called but for cases of teeth on both sides, very often growing on the upper molar for a long distance. Mr. Shipley said he did not often get such teeth off; neither did he, but he took off a great part of the tooth. With regard to wolf teeth, he did not think they often interfered with horses.

Mr. THURSTON said that he generally had to draw the 4th molar and this was in the case of weak-jawed horses. He fancied these teeth came rather small and could not bear the pressure; working to one side. If he took one he also took the opposite tooth, and then the horse went on for a few years fairly well. When they were small and, owing to the working on one side, food got between them then the horses became "quidders." The beans and wheat straw given to horses in Suffolk would try any teeth.

Mr. W. SHIPLEY, SENR., said that with regard to quidders and disease of the 5th molars he was of opinion that the 5th molar as a rule was not sufficiently developed for the length of the jaw, and that the disease of the teeth so-called, was quite secondary. The large tooth was subject to an immense amount of pressure, and was forced between the 5th and 6th molars or the 4th or 5th or both, and thus there was inflammation of the lining of the alveolus and ulceration, and of course afterwards a want of nourishment in the teeth, and subsequently caries. He did not think the amount of caries in the teeth was very great. It was more inflammation of the tissues connecting the teeth with the alveolar cavity. To do away with that they must remove the teeth. So far as their present appliances were concerned there was nothing like Santy's forceps. In removing these molar teeth he had frequently broken the teeth, leaving a portion in the alveolar cavity. In these cases the animals had done nearly as well as if he had removed the whole teeth. He had always thought that if they had a smaller instrument that could be fixed on to the teeth so as to crush them off with the smaller part of the shears they would effect all they desired, but he was afraid owing to the strength required and the room taken up in the animal's jaw, that they could scarcely hope to get an instrument of that kind. He had no doubt the disease was rather want of development in the teeth than of extra development of the lower jaw and was due to a great extent to heredity. He had animals, 2, 3, and 4 in one lot, that had all been subject to this form of disease or mal-nutrition. What was wanted was an instrument to remove the top of the teeth instead of taking the whole out.

Mr. BUTTERS said that Mr. Shipley's paper was an excellent one. He had for a long time taken a great interest in this matter of dentition, and diseases of the teeth came very frequently under his notice. From what he had learned he believed that diseases of the teeth in horses were taken more notice of on the Continent and in America than in this country. A number of years ago a friend of his used to send him a New York paper similar to *The Field* called *The Turf*, and it teemed with advertisements of horse dentists. With the usual effrontery of quacks of this description a great number of them said they had performed before H.R.H. the Prince of Wales, and that His Royal Highness had expressed himself extremely pleased with their cleverness. Of course there was not a word of truth in them. The immense number of horse dentists advertising, some 60, led him to imagine that disease of the teeth in horses was better known in America than in England. As to the gaps between teeth, and food getting in between, preventing the animal from masticating its food, reducing it to a skeleton and rendering it unfit for work, this was a form of disease which had not been recognised for many years. It was, however, more prevalent than a great many would imagine. He had found it certainly more frequently between the 5th and 6th than between the 3rd and 4th and only in the lower jaw, never in the upper. He could not account for this, the gaps were not always of the same size, sometimes they were quite small and it was with difficulty that even fine hay got between. The constant pressure forced it out and caused a certain amount of disease. In some cases the gaps instead of being straight down were triangular-shaped, small at the top and getting wider towards the bottom. The food got there and accumulated and then they met with the disease. On more than one occasion he had cleaned out the accumulation of food and stopped the gap with gutta purcha, with very good results. A friend of his had suggested enamel, but he had not tried this. He looked upon stopping the teeth in this way to be the best plan, as the horse would do better with the teeth in than out. If any means could be adopted so that the animal had all its teeth to grind its food they would find that the animal did much better. He had two horses now whose teeth he had stopped in that way 12 months since and both were still going on satisfactorily. If the gutta percha came out it could be easily replaced. He agreed with Mr. Shipley, Senr., that when drawing teeth the instrument sometimes crushed away the top, due to a defect in the teeth, and broke it off close to the gums. These cases seemed to do very well, almost as well as those in which the whole teeth were extracted.

Mr. OVERED said it had occurred to him more than once whether an improvement could not be made in one or two of their instruments for veterinary dentistry. Santy's forceps were, so far as his experience went, the best in every way introduced to the profession, but these would fail occasionally. The 4th and 5th lower molar teeth were the smallest in the jaw. When he wanted to remove these teeth he could not get a firm grip and had only broken them off. Though he did not succeed in getting the teeth out the results from breaking them off were generally satisfactory. With regard to teeth shears, Thompson's invention was a valuable one, but these shears were too large to be used effectively in removing lower molar teeth and for removing superfluous growths of the lower 6's teeth, the shears could not be got far enough back in the jaw. He had had a very bad case but the shears were so wide and so large that he had to take the tooth off by degrees. The instrument therefore appeared to him to be unnecessarily large and strong. They might be made equally effectual if the blades were smaller. Occasionally he had an operation necessarily arising from the removal of a lower tooth and the growth of an opposing tooth. He had a case of a cart horse which had been operated upon sometime previously and its opposing tooth had grown so long as to work in the jaw on the opposite side. If they got the upper tooth with the substance they generally found it much larger than the lower. Happily they were not often required to remove them, when they were they should clip them off and level them. He fully believed in heredity in regard to these diseases. He traced it in three generatsons of cart horses at Mr. Rising's of Walsham. If they examined cart horses oftener they would find a good many more cases then they did at present. The spaces were more frequently between the 3rd and 4th and 5th and 6th teeth. What surprised him most was the comparative little disease found in the teeth. In the teeth he had removed he could not see any caries, only a little discolouration in the crown surface, owing to depression of the mucous membrane. This was caused by extreme pressure forcing the mucous membrane down the teeth. He sometimes found it deficient from $\frac{1}{2}$ to $\frac{3}{4}$ an inch in

length. As to foreign agents he described how he once found a bullock with the thick leather sole of an old boot edgeways between the inside of its jaw and its teeth so that it could not close its mouth. He also mentioned the case of a horse with a prolonged central incisor tooth that arose from a defect in the lower tooth opposing it. Its upper tooth overlapped the lower jaw and was from ¾ to 1 inch longer than any of the other teeth. He should not like to remove such a tooth but the best means of removing the superficial growth was to make it level with the other incisors. He would not try the Thompson instrument and he did not know whether a forge rasp would answer the purpose. Why they had cart horses more subject to the complaint he could not tell, nor why it should be invariably in the lower jaws.

Mr. Bower said that overlapping teeth of this kind he took off with a smart tap of Gowing's sliding chisel after marking a line round it with a sharp file. The tooth snapped off and the operation lasted for three years.

Mr. Hunting said a tooth saw could be used for this purpose.

Mr. Thurston said that the sharper and tenderer the chisel the better. This was the best way of taking off boars' tusks.

Mr. Case said it had not been shown to his satisfaction that disease of the teeth was hereditary. He knew men with perfectly sound teeth who had families with diseased teeth. If that was so in men why not in animals? It was said that bad teeth were generally found in cart horses. Why? Because cart horses in Norfolk were fed upon injurious food, and worked very hard. He did not consider wolf teeth injurious though he had taken hundreds out because it answered his purpose. He referred to a horse he once sold which the buyer afterwards said was a "quidder" but which on being examined was found to have a piece of wood firmly fixed at the top of the roof of its mouth.

Mr. Overed also instanced a case of a dog which he found with a piece of wood transversely fixed in its mouth as firmly as possible which was only removed after some exertion.

Mr. W. Shipley, Jun., in replying on the discussion, said that their President had made some sensible and practical remarks. He agreed with Mr. Barr as to the cause of "quidders" and that separation came first and disease of the teeth afterwards. He had found plenty of "quidders" with no disease whatever in their teeth, but with the 6th molar growing longer than the rest. It was a good deal of trouble to clip and greater trouble still to get out. Occasionally a piece could be clipped off the top, and this would last a little time. The muscle of the jaw was so thick as to prevent them getting the shears on the tooth. Mr. Thurston said that the 4th molar was more or less affected and Professor Roberts said the same. So far as he was concerned the 5th was the molar of all, and occasionally between 4th and 5th. He was glad to hear what Mr. Butters said about stopping the gaps, and would like to try it, but he hardly knew what material to use. It would be rather difficult to use unless one could have the horse under his care, but he would try it. At the same time if a molar was taken out the horse did not seem to suffer any convenience, and only wanted attending to, to clip the long molar opposite. He had a pair of forceps which were home-made after Santy's pattern. They were made a little stronger with a closer grip, which was more satisfactory than the usual forceps. With regard to the long incisor teeth, if they did not feel inclined to clip them off they could very easily rasp them off with a blacksmith's rasp or half file, which would fetch them off as quickly as possible. He had a case similar to that Mr. Case mentioned and found a long wooden crutch in the horse's mouth. This might occur very often and was annoying and likely to produce disappointment to the veterinary surgeon.

Mr. Thurston said that after he had drawn the 4th tooth "quidding" ceased, and so he never attempted to draw the 5th. It did not make a halfpenny worth of difference so long as one was drawn. He drew the one that bulged the most.

Mr. Overed asked for the *modus operandi* in regard to gutta percha. He put it in hot water, melted it to shape, and cut it off level with the other teeth before it got hard. He had instances in which it was a perfect success for three years. In another case it came out and when he tried to stop the gap again he failed and had to remove the tooth.

Mr. Butters, in reply, said he took all the food out and thoroughly cleaned and dried the gap, then he softened the gutta percha in hot water and shaped it to fit the gap exactly. One, two, or three pieces may be required. The great object was to prevent any space being left in which the food could accumulate. After about two days the animal took its food and seemed to go on as usual. Horses with gaps were not always "quidders" particularly if fed on soft and short food. If the gutta percha failed the tooth could always be drawn as a second operation.

Mr. Case proposed a vote of thanks to Mr. Shipley for his able and instructive paper, which Mr. Shipley acknowledged.

Mr. Overed proposed a vote of thanks to the President which Mr. W. Shipley, Sen., seconded.

## LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting of this society was held at the Angel Hotel, Peterborough, on Thursday, June 29th. The President, James Smith, Esq., Huntingdon, took the chair, and there were also present—Prof. Williams, Prof. Penberthy; Messrs. J. A. Clarke, March; W. B. Dickenson, Boston; B. Freer, Uppingham; H. J. Goodall, Melton Mowbray, J. W. Gresswell, Peterborough; Charles Hartley, Lincoln; T. Holmes, Bourn; Alex. Lennox, Crowland; J. Mackinder, Peterborough; and J. A. Robinson, Hon. Sec., Market Deeping.

Mr. A. E. Clarke, A.V.D., and several other gentlemen were present as visitors.

The minutes of the last meeting having been taken as read, letters of apology for non-attendance were read from Professors Pritchard and Walley, and Messrs. T. Greaves, Howse, T. Spencer, and W. P. Weston.

### PRESIDENTIAL ADDRESS,

James Smith, M.R.C.V.S. Huntingdon.

Gentlemen,—My first duty as president of this association is to thank you one and all for the great honour you have conferred upon me in unanimously electing me to the proud position I now occupy. Although I am of opinion there are amongst us abler men, more worthy of the honour, I can honestly say I yield to no man in my interest in the profession at large, and in this society in particular, and I think that to be president of the association to which he belongs is an honour to which every individual member should aspire. I feel all the more confidence, knowing as I do, that I can rely upon the co-operation of each individual member in the carrying out of my duties.

Of the benefit of such associations as this there is no possible room for doubt, and their power for good in promoting union and in assisting us personally to increase our knowledge is very far-reaching.

I believe it is the usual custom for a president to hark back to a history of the progress of an association, or to

give a retrospect of veterinary surgery in general, but I will content myself by saying that this association has been in existence now for eleven years, and that we have every reason to congratulate ourselves upon our present position. Our progress may have been slow, but we have every evidence that it has been none the less sure.

To-day, with your kind permission, I would prefer to address to you a few words upon our present position as provincial veterinary surgeons, and at the outset I wish to impress upon you that I do not wish to take a despondent view, but to honestly try to look our position in the face, and, if possible, to suggest some means by which we may assist in its improvement.

A great deal has been said and written lately about improving our position socially. Now, gentlemen, as far as I am personally concerned, with me it is a much more serious question—"How can I legitimately increase my income?" That a man's position socially can be improved by any bye-law that may be passed by our Council, I do not for one moment believe. I admit that by increasing the severity of the preliminary examination and requiring a student to possess a more thorough education than formerly, we shall have admitted to our ranks men who are capable of taking a better position socially than has formerly been the case. But even I cannot help but think that to a very great measure it rests with the man himself as to what position in life he will take. But to return to the practical part of our everyday life; if this better education and longer course of study be necessary before a man can write the magic M.R.C.V.S. after his name, it follows that a veterinary surgeon must be better paid for his work. At the present time a provincial practitioner has a great deal to handicap him, and unless some of the existing abuses are abolished, I must confess I fail to see how the veterinary surgeon of the future is going to get a return for his monetary outlay.

First and foremost amongst our drawbacks ranks the ever-trying to outdo one another by working at reduced fees, and it is my humble opinion that a remedy for this could easily be found if every veterinary surgeon belonged to a society like this. In that case there is no doubt this question of under-charging would very soon disappear. Therefore let us never cease to urge our neighbours to join this or some other veterinary medical association, and to impress upon them that by so doing our position, first financially and then socially, may be improved. To give my own experience, I can honestly say that I find if we charge our clients a fair sum for work done, some of them may say they think the charges high, but the very people who do this pay us and send for us again when our services are required.

For my own part, I am happy to say, I have not to contend with the unlimited use of quack medicines which I had to do when first commencing practice in my neighbourhood. I find that the majority of my clients are reasonable men, and that when you impress upon them the injustice of fetching you out of bed to a case which they had failed to cure by some of the specifics advertised, they are quite willing to use the medicine you send them, and to ask for your advice when necessary. Of course, we all have clients who seem to have what Prof. Walley very aptly calls "an inherent instinct" for quackery, and you can scarcely wonder at this when you know the amount of money spent in patent medicines with which people dose themselves, and of the composition of which they are absolutely ignorant. Apart from this, I am well aware that to many a hard-working veterinary surgeon this question is not only a source of annoyance, but that the use of these so-called remedies does seriously lessen his legitimate income, and I agree with Professor Walley that this is a vital question, and can only be dealt with thoroughly and satisfactorily by a thoroughly representative conference of members of our profession.

In still another way I think we have immense power in our hands for bettering our position. I take it that in public matters where our professional training and general practice must make us authorities, it is our duty to lead and not to follow public opinion. In this particular I own our relations with the public are by no means satisfactory. There can be no doubt that veterinary surgeons in the past have done good service both for the Government and for the country at large. What have we to thank for our present immunity from infectious diseases? Not the fact, I take it, that Mr. Somebody is at the head of the Agricultural Department, but that behind him there are skilled veterinarians whose advice he can always command, and whose recommendations have been carried out.

Taking such things into consideration, I cannot but think we do not, as a profession, receive the amount of public recognition we deserve. Take, for instance, the carrying out of the Dairies and Cowsheds Act, and the Inspection of meat. When we consider that such serious diseases as tuberculosis, actinomycosis, anthrax, trichinosis, &c., &c., are intercommunicable between animals and man, and can be conveyed by means of the flesh or milk of an animal, is it not an anomaly that the officer to whom is primarily entrusted the duties of inspector is generally the inspector of nuisances, and that, consequently, there is no reason why a man should not have cows in his dairy capable of spreading the most serious of these diseases *ad libitum*? I fancy that if we can arouse the public mind to grasp the fact that milk, which forms a large part of the food of our children, may, and often does, contain the germs of consumption, and that the detection of this disease in a cow can only with safety be entrusted to a veterinary surgeon, we shall be on the high road to abolish a system which entrusts the inspection of milk and flesh to a layman. Without in any way clashing with the duties of the medical officer of health, I am very strongly of opinion there is ample scope for calling into recognition the services of the veterinary surgeon in carrying out measures for the protection of the public health.

In conclusion, gentlemen, I wish to say that reforms for the benefit of our profession can be best discussed at meetings like the present, and I take this as one of many reasons why we should have a better response to the invitations issued to the members of this association to be present at its meetings. At them friendships are formed and the cause of misunderstanding may be explained. Our motto is "Unity is strength," and in no possible way can this unity be better cemented than by a regular attendance at these meetings.

The SECRETARY proposed that, in accordance with arrangements made at the last meeting at Grantham, by which the meetings were to be held at Grantham, Peterborough and Lincoln, the next meeting of the Society be at Lincoln.

This was seconded by Mr. HARTLEY, who said he should be pleased to welcome members of the society to Lincoln, and carried unanimously.

Professor PENBERTHY was then called upon by the president. He said a little instrument had come under his notice. It was an electric battery, to which was attached a binocular tube, the instrument altogether being intended to illuminate the external cavities of the body, such as the nasal chambers, vagina, etc. Professor Penberthy said it was the invention of a young member of the profession. He thought it would prove to be very useful; the light would burn for 100 hours, and the apparatus could be refitted for something like 4s. 6d. He demonstrated its action and uses, and how it might be applied, and Professor Williams characterised it as a very simple, ingenious instrument. Professor Penberthy said it could be procured from Mr. Scales, c/o Mr. Shelton, Leyton, Essex.

Mr. HARTLEY asked if there were not similar instru-

ments adapted for human surgery, and Professor Penberthy replied that there were, and that he thought this instrument very useful for examining mouths.

## "BLOOD-LETTING, BLISTERING AND PHYSICKING."

By Professor PENBERTHY.

Mr. President and Gentlemen,—When our president-elect did me the honour of asking me to introduce a subject to your notice to-day, I experienced the usual difficulties in making a choice, and would fain have asked him to confer the honour on someone more prepared to tell you something new or authoritative. I could not, however, forego the pleasure of meeting you all again—a pleasure enhanced by the fact that I should be at the inauguration of our old friend as president, and have the opportunity of congratulating him on the honourable position to which he has attained, and which I am confident, from a personal knowledge of his qualification, he will maintain. I hope Mr. President and the members will accept my congratulation.

I have little doubt that the heading under which I have elected to make a few brief remarks to-day may have excited some little wonderment. At the outset, I need scarcely say that it is not my intention to make an attempt to enter into or even touch on all the numerous details which might naturally fall within the category of bleed, blister, and physic. What with general business of the annual meeting and the presidential address, there will be, I presume, little disposition for anything more of a very deep or solid nature until we reach a "degree" beyond that of professional business. Those who were so wise as to advise us to "drink deep of the Pyærean spring," would, I believe, allow of dangers of drinking too deeply, so I have ventured on what may be deemed the superficial. Remarks which fell from a speaker at a veterinary meeting a short time ago, appeared to me to indicate a low estimate of therapeutic agencies which had sprung from what he was pleased to term "superstition," and excited in my mind a comparison between present and past practice of veterinary medicine and surgery—between our so-called scientific treatment and that of the old "bleed, blister, and physic" school: that school which gained for us in comparatively recent years the title "cow-leech," a name applied to us in a rather opprobrious sense from the idea of our frequent blood-letting propensities, but for whose proper origin and more acceptable meaning we must look to the Saxon "læce" of "lechian," "to heal." In old Bailey's Dictionery we find "leech—a farrier or horse-doctor." It is a common expression "The present is an age of fact rather than of faith," and perhaps we are a little too disposed to regard what has come before our time as an outcome of ignorance and unscientific, and to set it aside as useless on no other grounds than that it came into vogue before the so-called days of science. I am inclined to think we may hold too restricted views of what science is, and to attach the term rather exclusively to the immediate outcome of laboratory experiments. Surely the facts adduced from clinical observation and practice have a very large claim of credit in the accumilation of the scientific knowledge we now possess and on our gratitude, and I should like to record, whenever opportunity occurs, my respect for those in practice who have observed and chronicled their observations. Fashion in every department of society has its followers, and there is ever and everywhere the "leaving the old love for the new." No department has yielded more forcible instances of this human tendency than that of medicine. Yet, to the credit of her constancy, at least, it must be said the veterinary branch has stuck steadfast to two points of her character—blister and physic, and I would venture to assert, too, to the credit of the powers of observation of her members. Because it is not possible at any time to explain the manner in which an agent acts in inducing the cure of disease, it may not be inferred that the adoption of it is irrational. In a few other branches of study is it more difficult to scientifically account for the occurrence of circumstances which experience has taught us to be facts. In many instances, with respect to the action of medicines in the restoration of normal conditions, the effect may be dogmatically declared, while the mode by which the change has been brought about is wrapt in obscurity. When one looks into the dark past of medicine one is lost for power to conceive the circumstances which induced our forefathers to adopt certain agents and practices, and on turning to regard the effect of the light of scientific research in proving that these agencies are in many cases most correctly applied, our wonderment is only intensified, and we are led to inquire into the means which have sustained their existence. I presume it is merely a "survival of the fittest," and though fashion and frivolity have driven some of the useful towards the wall, matters will right themselves in time. The survival of the older useful practices to me is an outcome of the observation of our fathers. A little inquiry will show us that the most efficacious modes of treatment, based on the most shallow or absurd theories, have held their ground, and the true theory has had to be tacked on to the practice which has thereby been proved to be on sound principles. "Practice with theory" is a wise axiom or motto. Practice before theory savours of the "cart before the horse," and, probably, is an equally cumbersome manner of progression, but even in this way progress may be made, and this progress slow but sure.

In order to keep myself within the scope of the title, I propose to offer a few remarks on the several heads separately.

Blood-letting, I think I may say, has fallen into all but general disuse. The fleam, the most constant, and it may be remarked, the most deadly companion of our fathers, is an instrument which a large number of veterinary surgeons of the present day have never possessed. Half a century ago, few horses or cows whether sick, sore, sorry, or in perfect health, escaped being bled once or more during their life-time.

As to the origin of bleeding there is little doubt that it was associated with the so-called humoral pathology, "which held that there was so many humours, Bile, Phlegm, or Melancholy, and so many fluxes by which the humours could be removed,—those of the belly, those of the sweat, those of the urine, etc.—and old Solysell, in his "Perfect Marshall or Compleat Farrier," written in the seventeenth century, says: "Nature sometimes delivers herself of her troubles by great loss of blood, which is that has led physicians to trace nature foot by foot, and to procure sometimes one evacuation and sometimes another, according to the quality of the humour offending and the place where it lurks; it is certain there is no evacuation so ready, so easy, so agreeable, and so beneficial as blood-letting." This idea of regarding disease as an entity, having a corporeal existence, was very simple, and there is little wonder at the practice of attacking it or extracting it by withdrawal of it with the blood, etc. At any rate, the practice grew amongst surgeons, or barbers, and veterinary surgeons or farriers so rapidly and was thought so highly of, that at the beginning of this century it was adopted as a preventive or cure of almost every disease—systemic and local, of man and lower animals. Valour extinguished discretion, and it came to be seen that bleeding killed more than it cured. At the early part of this century, in the human subject there was a great prevalence of disease of an asthenic, depressing type, conditions in which the conservation of all the forces of the body was most important. Medical knowledge began to rapidly develop, and it was recognised that the number of the victims to blood-letting was

terrible, and the death-knell of the practice was heard far and wide. In human surgery its disuse soon became complete. Veterinary surgery followed suit to a great extent, till at the present moment it can scarcely be said to have other than a bare existence. Men have become quite unfamiliar with the operation, and, as a natural result, less disposed to do it. Indeed, there are hundreds of veterinary surgeons who have never seen an animal bled. The wholesale indiscriminate use of fleam and lancet we would condemn as forcibly as possible, but still there appears to be room for the question, Has not the reaction been too radical? Should it be so discarded? May no useful purpose be served by bleeding? Indeed, should it not be regarded with more favour than at present? We believe that in the majority of cases in which it was formerly adopted, its use could not now be justified. In many cases it was highly injurious; in others, like effects might have been induced by other means less heroic; but in some few conditions I am disposed to doubt if any other practice can induce like results. The great advantages of blood-letting depend on its rapidity of action. In embarrassment of the right side of the heart, associated with congestion of the lungs, where the pulmonary circulation is impeded and danger is imminent, from the fact that the right heart becomes over-distended, and as it were loses its "grip" on the blood, it ineffectually presses on its contents, becomes more and more stretched and powerless, the blood pressure rises, the blood is driven into the veins, and cannot get out of them for the arrest in the lungs. The distressing symptoms associated with these conditions are familiar to us. If in such a case the engorged jugular is boldly opened and blood taken in a copious stream, the heart becomes less distended, is enabled to grip its contents and exert its muscular force on them, and consequently on the blood in the pulmonary vessels which passes on oxygenated, and the symptoms of approaching asphyxia sometimes pass off as quickly as they came on. The left side of the heart, too, may become engorged and embarrassed, when the opening of an artery has a somewhat similar effect. In these we have what may be termed a mechanical means of relief, and experience tells us that from the operation there is little to fear. The abstraction of blood is not only a cardiac sedative, but its withdrawal from the nerve centres induces in them the sedative effect. We all appreciate this, and know it may be carried to fainting. This, in association with temporary reduction in the bulk of the blood, has in all painful diseases of an inflammatory nature, the effect of reducing the blood pressure, and may, in the early stages of such diseases as pleurisy and peritonitis, avert the evil consequences of exudation which are believed to depend on increased arterial and cardiac force from without the inflammatory area. The removal of pressure in the cerebral vessels where apoplexy and other vascular disturbances are imminent, must be an important item in treatment. This may be effected after a time by drugs, but I think it may be held that blood-letting is the most rapidly acting sedative we yet possess.

In cases where the blood is highly charged with poisonous matters whose effects are nearly culminating, what means so direct or easy for reducing the amount in the system at any given time?

Percival, writing on inflammation in 1834, says: "Indeed, in veterinary practice it (*blood-letting*) not only forms our most decisive means of cure, but in many cases is the only remedy we have it in our power to employ with any chance of success. A study of Percival's reasons certainly show a great advance on those of Solysell, but his agreeable writer advances many views which are scarcely tenable. Strangely enough, following the false ideas prevailing in Solysell's time, the operation of phlebotomy became popular, while the decline of this practice commenced soon after Percival's publication. By these remarks I do not imply that I would desire to see a return to the indiscriminate use of the fleam and lancet. Blood-letting, if it be of any service, must be adopted in response to the dictates of professional knowledge and common sense.

Turning to the second head of my title, "Blistering," I think we may take it that this mode of treatment, in veterinary practice at least, has fairly held its ground. Yet if we look far back, and regard the theories on which the practice was based, we shall find that not one of them holds water, and we are led to ask why they have retained their influence up to the present. The answer must be that clinical observation has shown their value.

Blisters as counter-irritants appear, like blood-letting, to have been an outcome of the idea that disease was a something with bodily form, and could be drawn or driven from one part of the body to the other, and, more recently based on the false assumption that no two inflammations could exist in the body at the same time.

Advance in physiology and pathology by experimental research has shown that the result of irritation or injury to the vessels of one part, such as is produced by a blister, is to produce a marked effect on the rest of the vascular system—dilatation in the injured part and contraction in the uninjured. Experiment seems also to show that irritation of certain external areas is followed by change in the vessels of certain definite internal areas or organs; thus, if an irritating fluid is placed on a definite spot on the wing of a bat (a transparent object), the vessels in the corresponding area shows marked contraction. Application to the loins of other animals induce similar changes in the vessels of the kidneys.

Blisters have an excitant action on the heart, and must be classed among the more powerful cardiac stimulants; they call forth latent energy and act as general stimulants when there is "hanging fire," as certain conditions are sometimes expressed. For this purpose they are sometimes used to excite, and overcome the stupor in opium poisoning. They prevent effusions, and sometimes their removal. They relieve pain and increase the number of leucocytes. And recent experiment seems to suggest that during the action of blisters a material is formed which may be absorbed into the blood, and produce an injurious effect on micro-organisms. So that in such diseases as acute pneumonia, depending on micrococci—in which cases stimulation of the chest wall was formerly so much in vogue, but more recently regarded as absurd—it is possible the application of a blister may be productive of good. Few of us who have carefully marked the temperature as gauged by the thermometer can scarce have failed to observe that frequently the mercury makes a decided and steady decline after the rise from the blister, especially in cases where the temperature has been of an oscillating character. It appears to have a power of bringing matters to a "head," as it were, where everything else fails. In cases of pleurisy or peritonitis, which have taken to "hanging fire," this is often remarkable.

It must not be thought for a moment that I would advocate indiscriminate blistering. The measure is a depletive one, induces pain, robs the blood of its nutriment, and excites tissue change and waste. I recognise its power of killing as well as curing, and I hold very strongly the opinion that the Society for the Prevention of Cruelty to Animals would fulfil its functions much more satisfactorily if it took up the cudgels against lay blistering, than of prosecuting veterinary surgeons for amputating tails or firing limbs, just to gratify and foster the spite of neighbouring veterinary surgeons or maudlin sentimentality. The numerous cases we are called upon to treat, in which the owner or the attendant has blistered an animal in a perfectly healthy part and left unobserved the seat of disease or lameness, thus inducing the most unnecessary pain, call for the inter-

nearest chemist's shop and obtain methylated spirit which on the addition of water remains a clear transparent fluid: the naphtha which it contains by order of the excise authorities, renders it for microscopical purposes, as well as for ordinary laboratory work perfectly worthless. Nevertheless the scientist is not without resource in the matter. Somerset House is most considerate, and permits him to obtain from the distillers methylated spirit free from the objectionable mineral Naphtha, and to obtain this licence the following is the plan to adopt. Ascertain at the nearest post office the name and address of the officer of Inland Revenue for your district. Apply to said officer who will furnish you with a form to be filled up, giving particulars as to purposes for which the spirit is required, address of premises where it is intended to be used etc. Eventually you will receive from Somerset House a licence to purchase Methylated Spirit free from Mineral Naphtha in quantities of not less than five gallons at a time: the local officer at same time supplying you with a book of official order forms, one of which being filled up by you, signed and sent to the Distillers you will find yourself once more in possession of the long lost and indispensable laboratory requisite.

From Messrs. Boord and Son, of Allhallows Lane, I have just received, under the above mentioned conditions, five gallons of Methylated Spirit which with water gives no precipitate or cloudiness; and can be rendered nearly water-free by adding dried potassium carbonate, the salt absorbing the water which the spirit contains, the latter by such means becoming sufficiently strong for most purposes, indeed nearly if not quite equal to ordinary so-called 'Absolute Alcohol' which is not entirely water-free.

HUGH M. SINGLETON, M.R.C.V.S.

Ealing, July 21st, 1893.

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COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. H. M. Singleton, J. A. Craft, T. A. Ford, "Young Practitioner," "Journal of R.A.S. of Victoria," (Australia), "Australian Farm and Home," "Baltimore Weekly Sun," "The Hindu," "West Cumberland Times," "Liverpool Mercury."

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